

1 MARK T. JANSEN (SBN 114896)
2 mjansen@crowell.com
3 PILAR R. STILLWATER (SBN 260467)
4 pstillwater@crowell.com
5 GALEN P. SALLOMI (SBN 306743)
6 gsallomi@crowell.com
7 CROWELL & MORING LLP
8 275 Battery Street, 23rd Floor
9 San Francisco, California 94111
10 Telephone: 415.986.2800
11 Facsimile: 415.986.2827

12 KATHRYN L. CLUNE (*pro hac vice* application to be filed)
13 kclune@crowell.com

14 ALI H.K. TEHRANI (*pro hac vice* application to be filed)

15 atehrani@crowell.com

16 CROWELL & MORING LLP
17 1001 Pennsylvania Ave, NW
18 Washington, DC 20004
19 Telephone: 202.624.2705
20 Facsimile: 202.628.5116

21 Attorneys for Plaintiff
22 THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

23
24
25
26
27
28

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
5510
5511
5512
5513
5514
5515
5516
5517
5518
5519
5520
5521
5522
5523
5524
5525
5526
5527
5528
5529
5530
5531
5532
5533
5534
5535
5536
5537
5538
5539
55310
55311
55312
55313
55314
55315
55316
55317
55318
55319
55320
55321
55322
55323
55324
55325
55326
55327
55328
55329
55330
55331
55332
55333
55334
55335
55336
55337
55338
55339
55340
55341
55342
55343
55344
55345
55346
55347
55348
55349
55350
55351
55352
55353
55354
55355
55356
55357
55358
55359
55360
55361
55362
55363
55364
55365
55366
55367
55368
55369
55370
55371
55372
55373
55374
55375
55376
55377
55378
55379
55380
55381
55382
55383
55384
55385
55386
55387
55388
55389
55390
55391
55392
55393
55394
55395
55396
55397
55398
55399
553100
553101
553102
553103
553104
553105
553106
553107
553108
553109
553110
553111
553112
553113
553114
553115
553116
553117
553118
553119
553120
553121
553122
553123
553124
553125
553126
553127
553128
553129
553130
553131
553132
553133
553134
553135
553136
553137
553138
553139
553140
553141
553142
553143
553144
553145
553146
553147
553148
553149
553150
553151
553152
553153
553154
553155
553156
553157
553158
553159
553160
553161
553162
553163
553164
553165
553166
553167
553168
553169
553170
553171
553172
553173
553174
553175
553176
553177
553178
553179
553180
553181
553182
553183
553184
553185
553186
553187
553188
553189
553190
553191
553192
553193
553194
553195
553196
553197
553198
553199
553200
553201
553202
553203
553204
553205
553206
553207
553208
553209
553210
553211
553212
553213
553214
553215
553216
553217
553218
553219
553220
553221
553222
553223
553224
553225
553226
553227
553228
553229
553230
553231
553232
553233
553234
553235
553236
553237
553238
553239
553240
553241
553242
553243
553244
553245
553246
553247
553248
553249
553250
553251
553252
553253
553254
553255
553256
553257
553258
553259
553260
553261
553262
553263
553264
553265
553266
553267
553268
553269
553270
553271
553272
553273
553274
553275
553276
553277
553278
553279
553280
553281
553282
553283
553284
553285
553286
553287
553288
553289
553290
553291
553292
553293
553294
553295
553296
553297
553298
553299
553300
553301
553302
553303
553304
553305
553306
553307
553308
553309
553310
553311
553312
553313
553314
553315
553316
553317
553318
553319
553320
553321
553322
553323
553324
553325
553326
553327
553328
553329
553330
553331
553332
553333
553334
553335
553336
553337
553338
553339
553340
553341
553342
553343
553344
553345
553346
553347
553348
553349
553350
553351
553352
553353
553354
553355
553356
553357
553358
553359
553360
553361
553362
553363
553364
553365
553366
553367
553368
553369
553370
553371
553372
553373
553374
553375
553376
553377
553378
553379
553380
553381
553382
553383
553384
553385
553386
553387
553388
553389
553390
553391
553392
553393
553394
553395
553396
553397
553398
553399
553400
553401
553402
553403
553404
553405
553406
553407
553408
553409
553410
553411
553412
553413
553414
553415
553416
553417
553418
553419
553420
553421
553422
553423
553424
553425
553426
553427
553428
553429
553430
553431
553432
553433
553434
553435
553436
553437
553438
553439
553440
553441
553442
553443
553444
553445
553446
553447
553448
553449
553450
553451
553452
553453
553454
553455
553456
553457
553458
553459
553460
553461
553462
553463
553464
553465
553466
553467
553468
553469
553470
553471
553472
553473
553474
553475
553476
553477
553478
553479
553480
553481
553482
553483
553484
553485
553486
553487
553488
553489
553490
553491
553492
553493
553494
553495
553496
553497
553498
553499
553500
553501
553502
553503
553504
553505
553506
553507
553508
553509
553510
553511
553512
553513
553514
553515
553516
553517
553518
553519
553520
553521
553522
553523
553524
553525
553526
553527
553528
553529
553530
553531
553532
553533
553534
553535
553536
553537
553538
553539
553540
553541
553542
553543
553544
553545
553546
553547
553548
553549
553550
553551
553552
553553
553554
553555
553556
553557
553558
553559
553560
553561
553562
553563
553564
553565
553566
553567
553568
553569
553570
553571
553572
553573
553574
553575
553576
553577
553578
553579
553580
553581
553582
553583
553584
553585
553586
553587
553588
553589
553590
553591
553592
553593
553594
553595
553596
553597
553598
553599
553600
553601
553602
553603
553604
553605
553606
553607
553608
553609
553610
553611
553612
553613
553614
553615
553616
553617
553618
553619
553620
553621
553622
553623
553624
553625
553626
553627
553628
553629
553630
553631
553632
553633
553634
553635
553636
553637
553638
553639
553640
553641
553642
553643
553644
553645
553646
553647
553648
553649
553650
553651
553652
553653
553654
553655
553656
553657
553658
553659
553660
553661
553662
553663
553664
553665
553666
553667
553668
553669
5536610
5536611
5536612
5536613
5536614
5536615
5536616
5536617
5536618
5536619
5536620
5536621
5536622
5536623
5536624
5536625
5536626
5536627
5536628
5536629
5536630
5536631
5536632
5536633
5536634
5536635
5536636
5536637
5536638
5536639
5536640
5536641
5536642
5536643
5536644
5536645
5536646
5536647
5536648
5536649
5536650
5536651
5536652
5536653
5536654
5536655
5536656
5536657
5536658
5536659
5536660
5536661
5536662
5536663
5536664
5536665
5536666
5536667
5536668
5536669
55366610
55366611
55366612
55366613
55366614
55366615
55366616
55366617
55366618
55366619
55366620
55366621
55366622
55366623
55366624
55366625
55366626
55366627
55366628
55366629
55366630
55366631
55366632
55366633
55366634
55366635
55366636
55366637
55366638
55366639
55366640
55366641
55366642
55366643
55366644
55366645
55366646
55366647
55366648
55366649
55366650
55366651
55366652
55366653
55366654
55366655
55366656
55366657
55366658
55366659
55366660
55366661
55366662
55366663
55366664
55366665
55366666
55366667
55366668
55366669
553666610
553666611
553666612
553666613
553666614
553666615
553666616
553666617
553666618
553666619
553666620
553666621
553666622
553666623
553666624
553666625
553666626
553666627
553666628
553666629
553666630
553666631
553666632
553666633
553666634
553666635
553666636
553666637
553666638
553666639
553666640
553666641
553666642
553666643
553666644
553666645
553666646
553666647
553666648
553666649
553666650
553666651
553666652
553666653
553666654
553666655
553666656
553666657
553666658
553666659
553666660
553666661
553666662
553666663
553666664
553666665
553666666
553666667
553666668
553666669
5536666610
5536666611
5536666612
5536666613
5536666614
5536666615
5536666616
5536666617
5536666618
5536666619
5536666620
5536666621
5536666622
5536666623
5536666624
5536666625
5536666626
5536666627
5536666628
5536666629
5536666630
5536666631
5536666632
5536666633
5536666634
5536666635
5536666636
5536666637
5536666638
5536666639
5536666640
5536666641
5536666642
5536666643
5536666644
5536666645
5536666646
5536666647
5536666648
5536666649
5536666650
5536666651
5536666652
5536666653
5536666654
5536666655
5536666656
5536666657
5536666658
5536666659
5536666660
5536666661
5536666662
5536666663
5536666664
5536666665
5536666666
5536666667
5536666668
5536666669
55366666610
55366666611
55366666612
55366666613
55366666614
55366666615
55366666616
55366666617
55366666618
55366666619
55366666620
55366666621
55366666622
55366666623
55366666624<br

BACKGROUND AND NATURE OF THE ACTION

1. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.*, and specifically § 271, for Defendant's infringement of The Regents' patents covering the now-standard and universally utilized method of treating atrial fibrillation.

2. Atrial fibrillation (also referred to as “AFib” or “AF”) is the most common type of abnormal heart rhythm. AFib can be an extremely serious condition that severely limits physical activities and significantly increases the risk of other serious heart diseases, stroke, and death. It is estimated that five million people in the United States suffer from AFib currently, and that this number will reach up to 12 million people by 2050. Approximately 450,000 new cases of AFib are diagnosed in the U.S. alone each year. These figures are expected to increase as the population ages.

3. Atrial fibrillation is caused by irregular electrical activity that is triggered typically from locations in the pulmonary veins, or near the entrance of the pulmonary veins in the left atrium of the heart. Absent appropriate treatment, the erratic electrical pulses travel from the pulmonary vein into the left atrium, wherein they trigger the onset of AFib, which causes erratic heart muscle contractions and decreases the effectiveness of the heart's ability to pump blood through the patient's body.

4. Medical researchers spent decades attempting to develop safe and effective non-pharmacologic treatment methods. Michael D. Lesh MD, a professor of medicine and a cardiac electrophysiologist at the University of California, San Francisco (or “UCSF”), finally solved the problem by inventing the first safe and reliable minimally invasive method of treating AFib.

5. The treatment method invented by Dr. Lesh (the “Patented Method”) involves the formation of a circumferential conduction block at a location where a pulmonary vein extends from the heart’s left atrium. The resulting conduction block is intended to block electrical pulses originating within or near the pulmonary vein(s) and to prevent them from entering the left atrium and triggering atrial fibrillation. Dr. Lesh filed several related patent applications directed to the Patented Method, prosecuted by and on behalf of The Regents, including the two patents asserted

1 in this action. All of these patents are duly assigned to The Regents (collectively, “The Regents’
2 Patents”).

3 6. BSC and the relevant medical community have, at all relevant times, consistently
4 referred to the Patented Method as “pulmonary vein isolation,” “PVI,” “circumferential PVI,”
5 “circumferential conduction block,” and/or “electrical isolation of the pulmonary veins,” and
6 other similar terms.

7 7. The Patented Method has proven highly successful in treating atrial fibrillation.
8 During the early 2000s, relevant medical professionals, such as doctors, cardiologists, cardiac
9 electrophysiologists, and thoracic and cardiac surgeons (“Doctors”), universally adopted the
10 Patented Method as the accepted non-pharmacologic method of treating AFib, either alone, or in
11 combination with other therapy.

12 8. Defendant BSC has, at all relevant times, been one of the major manufacturers of
13 medical devices and related equipment used to treat AFib. BSC manufactures, markets, and sells
14 a wide range of medical devices and related equipment (collectively, “BSC Devices”) that are
15 used to perform the Patented Method to treat AFib.

16 9. BSC has, at all relevant times, been aware of The Regents' Patents, including the
17 two patents asserted in this action, and is well aware of the widespread use of BSC Devices to
18 perform the Patented Method. Moreover, BSC has actively induced, and continues to induce,
19 medical professionals to use BSC Devices specifically to practice the Patented Method.

THE PARTIES

21 10. Plaintiff The Regents is a California corporation, with a principal place of business
22 in Oakland, California. The Regents makes up the governing board of the University of
23 California. The Regents maintains a principal, and world-renowned, medical research facility,
24 the University of California, San Francisco, in the City and County of San Francisco. All actions
25 are done in The Regents' name, including owning property such as patents and other intellectual
26 property, and entering into contracts.

27 11. Defendant BSC is a Delaware Corporation, with corporate headquarters in
28 Marlborough, Massachusetts, and with numerous manufacturing facilities and management

1 offices located in California, including in this District.

2 **JURISDICTION AND VENUE**

3 12. This Court has original and exclusive subject matter jurisdiction over this
4 controversy pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5 13. This Court has personal jurisdiction over BSC because BSC's contacts with the
6 State of California are significant and pervasive, and because BSC's contacts with California, as
7 described in this Complaint, directly give rise to this dispute. BSC has multiple manufacturing
8 facilities and offices in California, including at least one within this District, located in San Jose,
9 San Jose County.

10 14. BSC has conducted substantial business with individuals, hospitals, and other
11 medical institutions and facilities throughout the State of California, including in this District, and
12 it actively promotes and sells its medical devices and equipment, including the BSC Devices that
13 are the subject of this action, throughout California. In doing so, BSC regularly transacts
14 business throughout the state and in this District in violation of the Asserted Patents, as alleged in
15 this Complaint. Accordingly, this Court may properly exercise personal jurisdiction over BSC.

16 15. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (c) and/or
17 1400(b) at least because BSC resides in this District, has a regular and established place of
18 business in this District, and has committed acts of infringement in this District.

19 **INTRA-DISTRICT ASSIGNMENT**

20 16. This is an intellectual property action to be assigned on a district-wide basis
21 pursuant to Civil Local Rule 3-2(c).

22 **THE ASSERTED PATENTS**

23 17. On December 26, 2000, the United States Patent and Trademark Office
24 ("USPTO") duly issued United States Patent No. 6,164,283 ("the '283 Patent"), entitled
25 "DEVICE AND METHOD FOR FORMING A CIRCUMFERENTIAL BLOCK IN A
26 PULMONARY VEIN." The Regents owns by assignment all rights, title, and interest in the '283
27 Patent. A true and correct copy of the '283 Patent is attached hereto as Exhibit 1.

28 18. On January 7, 2003, the USPTO duly issued United States Patent No. 6,502,576

1 (“the ‘576 Patent”), entitled “DEVICE AND METHOD FOR FORMING A
2 CIRCUMFERENTIAL BLOCK IN A PULMONARY VEIN.” The Regents owns by assignment
3 all rights, title, and interest in the ’576 Patent. A true and correct copy of the ’576 Patent is
4 attached hereto as Exhibit 2.

5 19. The '283 and '576 Patents are referred to collectively as the "Asserted Patents."

BACKGROUND OF ATRIAL FIBRILLATION

7 20. Atrial fibrillation is a type of cardiac arrhythmia that causes an abnormally fast and
8 irregular heart rate. In patients with normal sinus rhythm, the heart is electrically excited to beat
9 in a synchronous, patterned fashion. In patients with a cardiac arrhythmia, however, abnormal
10 regions of cardiac tissue emit erratic electrical signals, disrupting the synchronous beating cycle
11 associated with normally conductive tissue in healthy patients.

12 21. Atrial fibrillation occurs in the upper chambers of the heart (i.e., atria). In healthy
13 individuals, the heart's atrial and ventricular chambers (i.e., the lower chambers of the heart)
14 contract in a coordinated fashion with a normal sinus heart rate between 60 and 100 beats per
15 minute.

16 22. In patients with AFib, however, the atrial chambers receive such fast and erratic
17 electrical stimulation that they can only quiver and are unable to actively pump blood from the
18 atria to the ventricles. During AFib, the two atria of the heart “beat” between 350 and 600 times
19 per minute. When this occurs, the atrioventricular node, a part of the electrical pathway between
20 the atria and the ventricles, becomes overloaded with electrical impulses trying to get to the
21 ventricles. As a result, the normal coordination between the atria and ventricles is lost, ventricles
22 develop an irregular heart rhythm, and pumping efficacy is decreased.

23 23. As a result of blood not being pumped effectively to the ventricles, blood can pool
24 in the atria, posing a serious health risk. The pooling of blood can lead to coagulation and
25 clotting. Strokes occur when a blood clot travels from the atrium, through the arterial system, to
26 the brain. People with AFib are five times more likely to suffer a stroke than patients without
27 AFib, and more than 15% of all strokes occur in patients with AFib. Once AFib is diagnosed,
28 however, treatment can reduce the risk of stroke.

1 24. In some patients, the risk of stroke may be reduced with blood thinners to prevent
2 the blood from clotting, and with anti-arrhythmic drugs to restore normal sinus rhythm. These
3 drugs often have serious side effects, such as severe bleeding, dizziness, nausea, bruising, fatigue,
4 lung disease, and ventricular arrhythmias. Further, these drugs often do not prevent further
5 episodes of AFib. If drugs are not effective or well tolerated by a patient, the treatment options
6 include highly invasive open heart surgery or a cardiac ablation procedure, the evolution of which
7 is described more fully below.

DR. MICHAEL LESH INVENTS THE PATENTED METHOD TO TREAT ATRIAL FIBRILLATION

25. Early non-pharmacologic approaches to treat atrial fibrillation were surgical, and involved a complex pattern of surgical incisions in both the left and right atria. The resulting scarred tissue was non-conductive and hence had the potential to block the erratic electrical pulses thought to cause AFib.

14 26. The early surgical efforts were reported as having some success in treating
15 patients, but these open heart surgeries were highly invasive with the heart stopped, the chest
16 opened, and the patient placed on a heart-lung machine. They also required a long recovery
17 period, tended to render the left atrium non-functional, and had a high risk of death.

18 27. In parallel with the development of the surgical procedures described above,
19 doctors began to use catheters to ablate cardiac tissue to treat a variety of cardiac arrhythmias.
20 Catheter ablation is a much less invasive procedure than surgery and is performed by cardiac
21 electrophysiologists (“EPs”) in a catheterization lab. EPs are board-certified cardiologists with
22 additional training in treating cardiac arrhythmias. In a catheter ablation procedure, the EP inserts
23 multiple specialized catheters into the patient’s veins and arteries. The EP generally guides the
24 catheters into the right atrium of the patient’s heart. For procedures involving the left atrium, the
25 EP uses a special catheter to puncture the intra-atrial septum (i.e., the wall separating the left and
26 the right atria) to access the patient’s left atrium, where the desired tissue can be ablated.

27 28. In the early 1990s, EPs began using catheter ablation in an attempt to treat AFib by
28 mimicking the surgical procedures described above. These catheter procedures typically involved

1 the creation of linear patterns of non-conductive tissue from the inside wall of the heart with a
 2 goal to create lesions that were transmural (i.e., through the wall from inside to out). In addition,
 3 the lesions needed to be continuous (or nearly so) with no gaps. Because they took many hours to
 4 complete, these procedures were very stressful for patients and resulted in safety complications
 5 such as perforations of the atrium and excessive radiation exposure.

6 29. In the mid-1990s, research established that approximately 90% of the erratic
 7 electrical pulses triggering AFib originated somewhere in the pulmonary veins. Thereafter,
 8 treating EPs attempted to cure AFib by locating and ablating the point or points (focus or foci) of
 9 origination of the erratic electrical signals within the pulmonary veins.

10 30. These procedures were of limited success because the exact locations of the
 11 originating foci are difficult to identify. In addition, there are often multiple originating foci
 12 within each pulmonary vein, causing this methodology to be extremely time-consuming. The
 13 procedure also posed safety concerns, the most serious of which was stenosis of the pulmonary
 14 veins due to excessive scarring. This stenosis blocked oxygen transmission in the blood, and
 15 could lead to serious lung problems and even death.

16 31. Dr. Lesh invented the solution to this life threatening problem. The Patented
 17 Method is directed to forming a circumferential conduction block at a location where a
 18 pulmonary vein extends from a patient's left atrium. The resulting circumferential conduction
 19 block prevents electrical pulses originating from within or near the pulmonary vein from entering
 20 the left atrium and causing AFib. This allows treatment of AFib without having to identify,
 21 locate, or ablate the triggering foci within each pulmonary vein. At the same time, it reduces the
 22 risk of complication posed by previously-employed methods of treatment.

23 32. Beginning in July 1997, Dr. Lesh filed several related patent applications
 24 disclosing and covering the Patented Method. The first of these patents was filed on July 3, 1997,
 25 and issued on January 11, 2000, as U.S. Patent No. 6,012,457 ("the '457 Patent") entitled
 26 "DEVICE AND METHOD FOR FORMING A CIRCUMFERENTIAL BLOCK IN A
 27 PULMONARY VEIN." The Regents owns by assignment all rights, title, and interest in the '457
 28 Patent. A true and correct copy of the '457 Patent is attached hereto as Exhibit 3.

1 33. The Asserted Patents claim direct priority from the '457 Patent. More
 2 specifically, the '576 Patent is a continuation and the '283 Patent is a continuation-in-part of the
 3 '457 Patent.

4 34. The Asserted Patents disclose and claim the Patented Method, as demonstrated in
 5 representative claim 1 of the '283 Patent:

6 A method for treating atrial arrhythmia in a patient, comprising:
 7 forming a circumferential conduction block in a circumferential
 8 region of tissue at a location where a pulmonary vein extends from
 an atrium in the patient,
 9 wherein the circumferential conduction block formed is continuous
 10 along the circumferential region of tissue, and
 11 wherein the circumferential conduction block is formed without
 contacting the tissue with an ablative fluid medium.

12 35. The Patented Method can be performed using a variety of devices and in either a
 13 surgical or a less-invasive catheterization procedure. The Patented Method has been adopted by
 14 surgeons and surgical device companies, as well as by EPs and electrophysiology device
 15 companies.

BSC'S KNOWLEDGE OF THE PATENTED METHOD AND ASSERTED PATENTS

17 36. By the early 2000s, the Patented Method claimed in the Asserted Patents had
 18 become recognized as the most effective means of treating AFib and had become the essential
 19 element of all ablation procedures to treat AFib. In fact, all doctors in the United States that
 20 perform catheter ablation procedures to treat AFib perform the Patented Method and infringe the
 21 Asserted Patents, including representative claim 1 of the '283 Patent.

22 37. BSC was at all relevant times one of the largest manufacturers and distributors of
 23 cardiology-related devices, including devices used to treat AFib according to the Patented
 24 Method, and had performed extensive market research on the procedures and equipment used to
 25 treat AFib. BSC was aware of the Asserted Patents and knew that the Patented Method was the
 26 universally-adopted procedure for treating AFib. Indeed, by no later than 2006, BSC was
 27 sponsoring medical symposia at which leading cardiologists taught the use of BSC Devices to
 28 perform the Patented Method.

1 38. The Regents' Patents, and in particular the Asserted Patents, are widely cited in
 2 patent applications filed by BSC and numerous other medical device companies. According to
 3 the USPTO's database, the '457 Patent has been cited as relevant prior art in more than 460
 4 patents and patent applications published before 2013. The asserted '283 Patent is cited in more
 5 than 350 published U.S. patents, and the asserted '576 Patent is cited in more than 100 published
 6 U.S. patents.

7 39. According to the USPTO's database, BSC directly and through its wholly-owned
 8 subsidiary Boston Scientific Scimed, Inc., cited the '457 Patent in at least 49 patent applications.
 9 BSC directly and through its wholly-owned subsidiaries applied for and prosecuted at least 68
 10 patent applications that cite one or both of the Asserted Patents as prior art. Thus, BSC maintains
 11 a thorough knowledge of all relevant facts, technologies, inventions, published research, and
 12 other developments relating to the Patented Method.

13 40. BSC also specifically discussed the Patented Method in its patent applications.
 14 For example, as set forth in the below reproduced excerpt from BSC's own U.S. Patent No.
 15 7,435,248, BSC discussed the proposed utility of one of its claimed catheter inventions and
 16 confirmed that the Patented Method successfully isolated the pulmonary vein:

17 One lesion that has proven to be difficult to form with
 18 conventional devices is the **circumferential lesion that is**
used to isolate the pulmonary vein and cure ectopic
atrial fibrillation. Lesions that isolate the pulmonary vein
 19 may be formed within the pulmonary vein itself or in the
 tissue surrounding the pulmonary vein. **Ablation of**
pulmonary veins is currently performed by placing a
diagnostic catheter (such as . . . Boston Scientific
Corporation's Constellation TM ECG catheter) into the
 20 pulmonary vein to be treated, and then ablating the
 pulmonary tissue adjacent to the distal end of the selected
 21 diagnostic catheter with a standard, commercially available
 ablation catheter. The diagnostic catheter is used to
 determine if the lesion created by the ablation catheter has
 22 been successful in electrically isolating the pulmonary vein.
 23 (1:64-2:12 (emphasis added)).
 24
 25

26 41. The Regents also provided BSC additional notice of the Asserted Patents. On
 27 February 1, 2016, The Regents advised BSC in writing that BSC Devices were being marketed
 28 and sold to doctors for use in practicing the Patented Method as claimed in the Asserted Patents.

1 The Regents' letter, attached hereto as Exhibit 4, specifically identified the Asserted Patents and
2 informed BSC that they cover the Patented Method which "involve[s] the use of various energy
3 sources . . . to ablate heart tissue in a circumferential pattern around the pulmonary vein,
4 disrupting the erratic electric[al] pulses that cause atrial fibrillation."

5 42. Accordingly, BSC had actual knowledge at all relevant times of the Asserted
6 Patents and that the Asserted Patents cover the Patented Method.

**BSC MAKES, PROMOTES AND SELLS A WIDE RANGE OF CATHETERS AND
OTHER MEDICAL DEVICES THAT DOCTORS USE
TO PERFORM THE PATENTED METHOD**

9 43. During the relevant time period, BSC has marketed and sold multiple BSC
10 Devices used by at least interventional cardiologists, EPs, and cardiothoracic surgeons, to perform
11 the Patented Method in violation of the Asserted Patents. At all relevant times, BSC was aware
12 that Doctors used BSC Devices to treat AFib and to perform the Patented Method.

13 44. BSC operates primarily in the United States, Europe and Asia Pacific. Upon
14 information and belief, BSC employed approximately 25,000 people as of October 2016. BSC
15 divides its business into several categories, including Cardiovascular, and Rhythm Management
16 (which includes the sale of BSC Devices for treatment of AFib).

17 45. BSC's Electrophysiology Division, which is part of BSC's Rhythm Management
18 division, encompasses a wide range of products that BSC designs, promotes, and sells to treat
19 AFib. BSC's total worldwide sales of AFib treatment devices and equipment have ranged from
20 \$147 million to \$248 million in each of the years 2010 through 2016.

21 46. When promoting BSC Devices for treatment of AFib, BSC understands, and the
22 relevant medical community understands, that it is promoting the BSC Devices to be used
23 specifically to perform the Patented Method. During the relevant time period, Defendant has
24 marketed, advertised, and sold a number of ablation catheters specifically for use by Doctors in
25 performing the Patented Method. These include, but are not limited to, the following:

- **Ablation Catheters**, including but not limited to: Blazer Temperature Ablation Catheter, Blazer Prime Temperature Ablation Catheter, Blazer II Temperature Ablation Catheter, Chilli II Cooled Ablation Catheter, and IntellaTip MiFi XP

- 1 Temperature Ablation Catheter.
- 2 • **Diagnostic Catheters**, including but not limited to: Blazer Dx-20 Bidirectional
3 Duodecapolar Diagnostic Catheter, Polaris X Steerable Diagnostic Catheter,
4 SteeroCath-Dx Bi-Directional Steerable Diagnostic Catheter, Woven Diagnostic
5 Catheter Fixed Curve, WovenFlexie Diagnostic Catheter Fixed Curve, Viking /
6 Viking Soft Tip Diagnostic Catheter Fixed Curve, Tango Stabilene Diagnostic
7 Catheter Fixed Curve, Dynamic XT Diagnostic Catheter Steerable, Dynamic Tip
8 Diagnostic Catheter Steerable, EP XT Diagnostic Catheter Steerable, Orbiter ST
9 Diagnostic Catheter Steerable, and Radia Diagnostic Catheter Bidirectional
10 Steerable.
- 11 • **Access Catheters**, including but not limited to: Zurpaz 8.5f Steerable Sheath,
12 Direx Steerable Sheath, Channel Steerable Sheath, and TSX Transseptal Delivery
13 System.
- 14 • **Mapping Catheters**, including but not limited to: Constellation Full Contact
15 Mapping Catheter, and Orbiter PV Variable Loop Mapping Catheter.
- 16 • **Mapping Software**, including but not limited to: Rhythmia Mapping System.
- 17 • **Ablation Generators**, including but not limited to: Metriq Pump Cardiac Ablation
18 System, and Maestro 4000 Cardiac Ablation System.
- 19 47. Numerous BSC Devices, including many listed above, are specifically designed
20 for and used by Doctors only as a material part of performing the Patented Method. With
21 knowledge of the Asserted Patents, BSC has knowingly promoted such BSC Devices as
22 specifically designed for the purpose of being used by Doctors to perform the Patented Method.
23 These particular BSC Devices, which have no substantial non-infringing uses, include but are not
24 limited to:
- 25 • **Access Catheters**, including but not limited to: Zurpaz 8.5f Steerable Sheath,
26 Direx Steerable Sheath, and TSX Transseptal Delivery System.
- 27 • **Mapping Catheters**, including but not limited to: Orbiter PV Variable Loop
28 Mapping Catheter.

1 48. At all relevant times, Doctors have used BSC Devices to perform the Patented
2 Method in the United States in violation of the Asserted Patents. BSC has at all relevant times
3 promoted, marketed, and advertised the BSC Devices to be used by Doctors to perform the
4 Patented Method. BSC was aware of and intended Doctors to use the BSC Devices to
5 specifically perform the Patented Method in violation of the Asserted Patents.

BSI'S INFRINGEMENT OF THE ASSERTED PATENTS

7 49. At all relevant times, BSC has induced and contributed to the infringement of the
8 Asserted Patents. With actual knowledge of the Asserted Patents, BSC actively encouraged
9 Doctors to use BSC Devices to perform the Patented Method with specific intent to infringe the
10 Asserted Patents. With actual knowledge of the Asserted Patents, BSC sold BSC Devices that
11 have no substantial non-infringing uses, contributing to the infringement of the Asserted Patents
12 by Doctors.

Seminars and Tradeshows Using BSC Devices to Perform the Patented Method

14 50. Since as early as 2005, BSC has sponsored courses that teach the Patented Method.
15 For example, BSC sponsors a course taught by Dr. Carlo Pappone, the Founder and Director of
16 the Arrhythmology Academy at the San Raffaele University-Hospital in Milan, Italy (the
17 “Academy”). The Academy is recognized for promoting and teaching advances in cardiac
18 electrophysiology techniques through interactive discussions with the attending physicians,
19 during meetings, lectures, and live procedure demonstrations performed by Dr. Pappone. The
20 Academy’s training programs are attended annually by medical professionals from around the
21 world, including U.S.-based Doctors.

22 51. BSC sponsored its conferences at the Academy with the knowledge and intent that
23 Dr. Pappone would teach Doctors, during live procedure demonstrations, how to use BSC
24 Devices to perform the Patented Method to treat patients with AFib. BSC intends its promotion
25 of BSC Devices at these conferences to induce U.S.-based Doctors to use BSC Devices to
26 practice the Patented Method in the United States.

27 52. BSC has frequently invited and sponsored U.S.-based Doctors to attend these
28 seminars. In addition to maintaining its website, the Academy publishes a series of YouTube

1 videos demonstrating how to perform the Patented Method. Upon information and belief, the
 2 production of these YouTube videos was paid for by BSC. A downloaded version of one such
 3 video on a DVD is attached hereto as Exhibit 5.

4 53. BSC has additionally sponsored a wide variety of medical professional trade
 5 shows, such as cardiology and electrophysiology conferences, to promote the use of the BSC
 6 Devices to perform the Patented Method to Doctors.

7 54. BSC's sponsorship includes: paying lecture fees to encourage prominent speakers
 8 to teach Doctors how BSC Devices can be used to perform the Patented Method; renting booths
 9 and convention hall demonstration areas where BSC sales representatives network with Doctors
 10 and provide marketing materials that teach and promote the use of BSC Devices to perform the
 11 Patented Method; and hosting invitation-only events or lectures extolling the use and benefits of
 12 BSC Devices for performing the Patented Method.

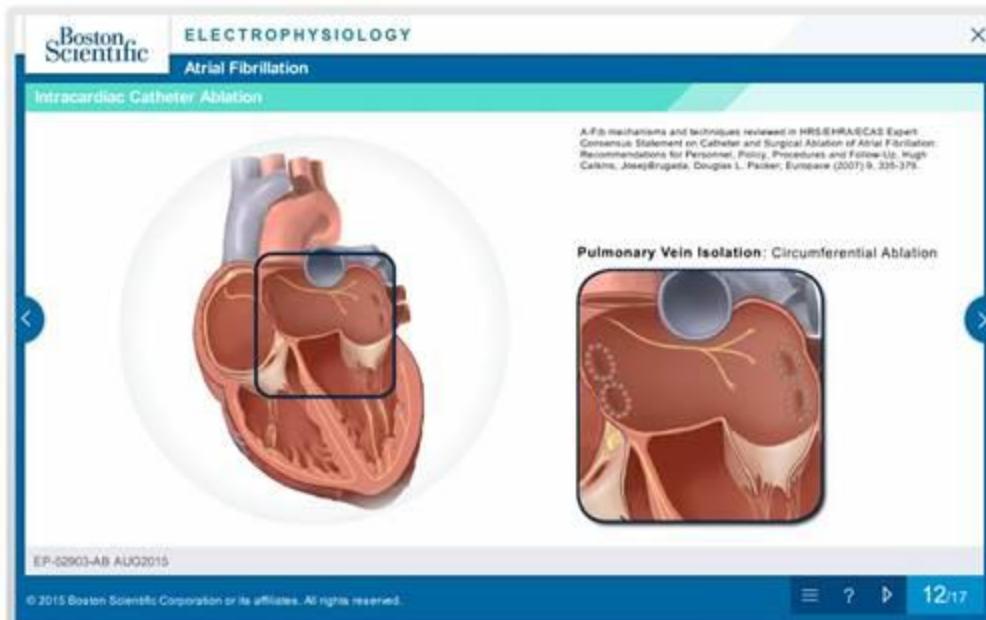
13 55. BSC promotes and exhibits its BSC Devices at major U.S.-based conferences
 14 including the annual meetings of the American Heart Association, the Heart Rhythm Society, the
 15 American College of Cardiology, and the Annual International Atrial Fibrillation Symposium.
 16 Several thousand Doctors attend these conferences, where they are introduced to BSC Devices
 17 and receive demonstrations, instructions, and promotional materials regarding the use of BSC
 18 Devices to perform the Patented Method.

19 56. For example, one brochure BSC distributed at the Heart Rhythm Society's annual
 20 meeting in San Francisco, attached hereto as Exhibit 6, teaches Doctors to use the BSC Rhythmia
 21 mapping system, BSC's Intellatip MiFi (MicroFidelity) ablation catheter, and BSC's Orion
 22 diagnostic catheter to perform the Patented Method to treat AFib. The brochure concludes that
 23 “[u]sing the Rhythmia™ mapping system to perform AFib ablation is an effective, rapid way **to**
 24 **aid in PVI** . . . Because the Orion™ catheter basket can be collapsed and expanded, it can
 25 navigate into [Pulmonary Vein] branches as easily as a standard ablation catheter.” *Id.* at 10
 26 (emphasis added).

27 57. BSC engages in the same promotion and teaching of the use of BSC Devices for
 28 performing the Patented Method at major cardiology conferences overseas, including annual

1 meetings of the European Society of Cardiology and the CardioStim Conference held once every
 2 two years in Nice, France, or other cities. BSC is well aware that many U.S.-based Doctors
 3 attend these overseas conferences, and BSC intends its promotion of BSC Devices at these events
 4 to induce U.S. Doctors to use BSC Devices to practice the Patented Method in the United States.

5 58. BSC further offers live and web-based training programs that teach Doctors to use
 6 the BSC Devices to perform the Patented Method. For example, the following illustration is from
 7 a video course directed at “allied health professionals” that depicts the circumferential lesions
 8 formed after an EP performs the Patented Method. The course begins by teaching the health
 9 professionals why AFib is harmful, what causes AFib, and concludes by teaching how to treat
 10 AFib using the Patented Method, which is the primary treatment for AFib.



22
 23 59. BSC operates at least one U.S. teaching facility in St. Paul, Minnesota, at which it
 24 instructs Doctors how to use BSC Devices to perform the Patented Method. According to BSC’s
 25 promotional material, attached hereto as Exhibit 7, BSC provides a “unique and customized
 26 learning experience” at this facility, one that is “customized to the learning needs of the
 27 physician,” “focus[es] on the safe and effective use of Boston Scientific products” in “a fully
 28 functional cath[eter] lab,” and teaches Doctors how to perform “transseptal procedures” and “safe

1 septal crossing.” *Id.* BSC knows that the Patented Method is the primary known and commonly
2 utilized “transseptal procedure.” BSC actively encourages Doctors to contact BSC sales
3 representatives to set up trainings at this and its other educational facilities.

4 60. BSC trains its extensive network of sales representatives to market BSC Devices
5 to Doctors. Upon information and belief, BSC's sales representatives are taught about the
6 Patented Method and are trained to demonstrate and otherwise promote BSC Devices as effective
7 tools for performing the Patented Method through, for example, distribution of printed
8 publications or other marketing materials, and by providing invitations to BSC sponsored training
9 programs. In a Securities and Exchange Commission filing, BSC stated that it develops highly
10 knowledgeable and dedicated sales representatives to foster "collaborative relationships" with
11 physicians. In addition to sales representatives who work directly with doctors, BSC also has a
12 dedicated corporate sales organization in the U.S., focused principally on selling BSC Devices to
13 major buying groups and integrated healthcare networks. These sales teams teach and promote
14 the use of BSC Devices to perform the Patented Method.

BSC's Use of Medicare Reimbursement Guides to Promote the Use of BSC Devices to Perform the Patented Method

17 61. While BSC's customers such as Doctors, hospitals, major buying groups, or
18 integrated healthcare networks purchase BSC Devices, they generally seek reimbursement from
19 the patients' insurers or Medicare for both the BSC Devices and for performing the Patented
20 Method to treat AFib. The reimbursed medical service fee includes charges for the BSC Devices
21 used in the procedure, many of which are one-time use catheters costing in excess of one
22 thousand dollars (\$1,000.00).

23 62. In addition to its other promotional activities, BSC has provided its customers with
24 reimbursement support for BSC Devices used in performing the Patented Method, beginning as
25 early as 2010. In particular, BSC has provided its customers a Medicare reimbursement guide for
26 cardiac electrophysiology services, including for treatment of AFib. BSC's reimbursement
27 billing guide, pertinent pages of which are attached hereto as Exhibit 8, provides Doctors with
28 information on how to get reimbursed for performing the Patented Method under the Medicare

1 billing code for “[c]omprehensive electrophysiologic evaluation including transseptal
2 catheterizations, insertion and repositioning of multiple electrode catheters with induction or
3 attempted induction of an arrhythmia . . . with ***intracardiac catheter ablation of atrial fibrillation***
4 ***by pulmonary vein isolation.***” *Id.* at 4 (emphasis added).

5 63. In providing this reimbursement support, BSC specifically intends to and actively
6 induces Doctors to use BSC Devices to perform the Patented Method in violation of the Asserted
7 Patents.

BSC's Use of Literature and Brochures to Promote BSC Devices to Perform the Patented Method

9 64. Promotion and marketing of medical devices for performing the Patented Method
10 also is accomplished through literature and brochures provided to Doctors for their own education
11 or for distribution to their patients. BSC routinely provides such materials to Doctors to promote
12 the use of BSC Devices to perform the Patented Method. These materials serve the dual purpose
13 of reinforcing to Doctors that BSC Devices can be used to perform the Patented Method, and to
14 encourage patients to ask Doctors about the use of BSC Devices to perform the Patented Method.

15 65. For example, beginning no later than 2009, BSC published and widely distributed,
16 through Doctors, a patient-focused handbook called “Understanding Atrial Fibrillation, a guide
17 for patients,” attached hereto as Exhibit 9, which teaches patients that the Patented Method is a
18 treatment for AFib and tells the patient to ask their doctor for more information. *Id.*

BSC's Use of Press Kits to Promote BSC Devices to Perform the Patented Method

21 66. BSC has created and disseminated press kits which advertise the use of BSC
22 Devices to perform the Patented Method. For example, in 2014, BSC published a media press
23 kit, attached hereto as Exhibit 10, stating that “Catheter ablation is the first-line treatment for
24 tachycardias,” that the “European Society of Cardiology Guidelines recommend catheter ablation
25 therapy as an alternative to medication for first-line treatment of rhythm control in certain patients
26 with AF,” and that “atrial fibrillation is the most common cardiac arrhythmia.” *Id.* This press kit
27 further extols BSC Devices, including BSC’s mapping systems and ablation catheters, for treating
28 atrial fibrillation, i.e., for performing the Patented Method. In addition to distributing this press

1 kit to media sources, BSC published the press kit on its corporate website.

2 67. BSC's marketing activities alleged herein were performed for the commercial
3 purpose of selling BSC Devices, and were not reasonably related to the development and
4 submission of information necessary to obtain regulatory approval from the FDA; nor were they
5 directed to the collection of information or data necessary for filing an application with the FDA
6 for approval to market any BSC Device. The BSC Devices were FDA approved and on sale in
7 the United States before BSC engaged in its infringing activities, alleged herein, by marketing
8 and promoting the BSC Devices with knowledge and intent that Doctors would use the BSC
9 Devices to perform the Patented Method.

10 68. On February 1, 2016, The Regents wrote to BSC and advised it of The Regents'
11 concern that BSC Devices were being marketed and sold to Doctors for use in practicing the
12 Patented Method. BSC did not change its marketing or promotional practices, but instead falsely
13 asserted that BSC does not market, instruct, or encourage Doctors to use BSC Devices for
14 performing pulmonary vein isolation.

15 **COUNT I: INFRINGEMENT OF THE '283 PATENT**

16 69. Plaintiff re-alleges here all of the allegations set forth in paragraphs 1-68 above.

17 70. At all relevant times, BSC had knowledge of the '283 Patent and the Patented
18 Method.

19 71. BSC induces others to infringe and/or contributorily infringes one or more claims
20 of the '283 Patent, either literally or under the doctrine of equivalents.

21 72. Claim 1 of the '283 Patent recites:

22 A method for treating atrial arrhythmia in a patient,
23 comprising:

24 forming a circumferential conduction block in a
25 circumferential region of tissue at a location where a
pulmonary vein extends from an atrium in the patient,

26 wherein the circumferential conduction block formed is
continuous along the circumferential region of tissue, and

27 wherein the circumferential conduction block is formed
28 without contacting the tissue with an ablative fluid
medium.

1 73. The use of the BSC Devices by Doctors to perform the Patented Method on
 2 patients with AFib satisfies each and every limitation of claim 1 of the '283 Patent.

3 74. At all relevant times, BSC knowingly encouraged and intended Doctors to use
 4 BSC Devices to perform the Patented Method on patients who have been diagnosed with AFib, in
 5 violation of claim 1.

6 75. Upon information and belief, both by manufacturing BSC Devices to be used in a
 7 manner that BSC knows infringes the '283 Patent, and by encouraging Doctors and/or customers
 8 to use the BSC Devices in a manner that BSC knows infringes the '283 Patent, BSC is inducing
 9 infringement of the '283 Patent by Doctors and/or customers in violation of 35 U.S.C. § 271(b).
 10 For example, BSC's marketing and promotional materials tout the use of BSC Devices to perform
 11 the Patented Method that falls within the scope of claim 1 of the '283 Patent.

12 76. A subset of BSC Devices sold by BSC, as set forth in paragraph 47, are material to
 13 performing the Patented Method, according to claim 1 of the '283 Patent.

14 77. This subset of BSC Devices is not a staple article or commodity of commerce,
 15 suitable for substantial non-infringing uses. Moreover, by its actual knowledge and having been
 16 put on notice of the '283 Patent, BSC knew that a subset of the BSC Devices are especially made
 17 or especially adapted for use in a manner that infringes the '283 Patent. Accordingly, BSC's sale
 18 of the subset of BSC Devices set forth in paragraph 47 contributes to infringement of the '283
 19 Patent by Doctors and/or their customers in violation of 35 U.S.C. § 271(c).

20 78. BSC has profited and will continue to profit from its infringement of the '283
 21 Patent.

22 79. BSC's infringement of the '283 patent has caused and will continue to cause The
 23 Regents substantial monetary harm, for which The Regents is entitled to receive compensatory
 24 damages in an amount to be determined at trial, but in no event less than a reasonable royalty.

25 80. Further, BSC's infringement of the '283 Patent has been willful, deliberate, and
 26 with full knowledge that the use of BSC Devices infringes the '283 Patent, justifying an increase
 27 in the damages to be awarded to The Regents up to three times the amount found or assessed, in
 28 accordance with 35 U.S.C. § 284.

1 81. BSC's willful infringement of the '283 Patent, among other actions, renders this an
 2 exceptional case, justifying the award to The Regents of its reasonable attorney fees, in
 3 accordance with 35 U.S.C. § 285.

4 **COUNT II: INFRINGEMENT OF THE '576 PATENT**

5 82. Plaintiff re-alleges here all of the allegations set forth in paragraphs 1-81 above.

6 83. At all relevant times, BSC had knowledge of the '576 Patent and the Patented
 7 Method.

8 84. BSC induces others to infringe and/or contributorily infringes one or more claims
 9 of the '576 Patent, either literally or under the doctrine of equivalents.

10 85. Claim 12 of the '576 Patent recites:

11 A method for treating atrial arrhythmia in a heart of a
 12 patient, wherein the patient includes a plurality of
 13 pulmonary veins and each pulmonary vein extends from a
 unique location in an atrium of the heart, the method
 comprising:

14 ablating a first ablation lesion that substantially
 15 circumscribes only one of the locations; and

16 ablating a second ablation lesion that substantially
 circumscribes only a different one of said locations.

17 86. The use of BSC Devices by Doctors to perform the Patented Method on patients
 18 with AFib satisfies each and every limitation of claim 12 of the '576 Patent.

19 87. At all relevant times, BSC knowingly encouraged and intended Doctors to use
 20 BSC Devices to perform the Patented Method on patients who have been diagnosed with AFib, in
 21 violation of claim 12.

22 88. Upon information and belief, both by manufacturing BSC Devices to be used in a
 23 manner that BSC knows infringes the '576 Patent, and by encouraging Doctors and/or customers
 24 to use the BSC Devices in a manner that BSC knows infringes the '576 Patent, BSC is inducing
 25 infringement of the '576 Patent by Doctors and/or customers in violation of 35 U.S.C. § 271(b).
 26 For example, BSC's marketing and promotion materials tout the use of BSC Devices to perform
 27 the Patented Method that falls within the scope of claim 12 of the '576 Patent.

28 89. At all relevant times, the BSC Devices were material to performing

1 circumferential PVI ablation according to the Patented Method. A subset of BSC Devices sold by
2 BSC, as set forth in paragraph 47, are material to performing the Patented Method, according to
3 claim 12 of the '576 Patent.

4 90. This subset of BSC Devices is not a staple article or commodity of commerce,
5 suitable for substantial non-infringing uses. Moreover, by its actual knowledge and having been
6 put on notice of the '576 Patent, BSC knew that a subset of the BSC Devices are especially made
7 or especially adapted for use in a manner than infringes the '576 Patent. Accordingly, BSC's sale
8 of the subset of BSC Devices set forth in paragraph 47 contributes to the infringement of the '576
9 Patent by Doctors and/or their customers in violation of 35 U.S.C. § 271(c).

10 91. BSC has profited and will continue to profit from its infringement of the '576
11 Patent.

12 92. BSC's infringement of the '576 Patent has caused and will continue to cause The
13 Regents substantial monetary harm, for which The Regents is entitled to receive compensatory
14 damages in an amount to be determined at trial, but in no event less than a reasonable royalty.

15 93. Further, BSC's infringement of the '576 Patent has been willful, deliberate, and
16 with full knowledge that the use of BSC Devices infringes the '576 Patent, justifying an increase
17 in the damages to be awarded to The Regents up to three times the amount found or assessed, in
18 accordance with 35 U.S.C. § 284.

19 94. BSC's willful infringement of the '576 Patent, among other actions, renders this an
20 exceptional case, justifying the award to The Regents of its reasonable attorney fees, in
21 accordance with 35 U.S.C. § 285.

PRAYER FOR RELIEF

23 Wherefore, The Regents of the University of California respectfully requests that the
24 Court enter a judgment as follows:

- 25 A. That BSC has infringed the Asserted Patents;

26 B. Awarding The Regents damages, including enhanced damages, pursuant to 35

27 U.S.C. § 284, for BSC’s infringement of the Asserted Patents, in an amount to be

28 determined at trial, but in no event less than a reasonable royalty;

- C. Awarding The Regents pre-judgment and post-judgment interest to compensate The Regents for the damages it has sustained;
- D. Awarding The Regents all of its costs and disbursements incurred in bringing this action;
- E. Declaring that this is an exceptional case under 35 U.S.C. § 285 and awarding The Regents' its reasonable attorney fees, costs, and expenses; and
- F. Awarding The Regents any further relief the Court deems just and proper.

Respectfully submitted,

DATED: October 28, 2016

CROWELL & MORING LLP

By: _____

Mark T. Jansen
Kathryn L. Clune
Pilar R. Stillwater
Ali H.K. Tehrani
Galen P. Sallomi
Attorneys for Plaintiff
THE REGENTS OF THE
UNIVERSITY OF CALIFORNIA

DEMAND FOR JURY TRIAL

The Regents of the University of California hereby requests a trial by a jury on all issues so triable.

Respectfully submitted,

DATED: October 28, 2016

CROWELL & MORING LLP

By: /s/ *Mark T. Jansen*

Mark T Jansen

Kathryn L. Clune

Pilar R. Stillwater

Ali H.K. Tehrani

Galen P. Sallomi

Attorneys for Plaintiff

THE REGENTS OF THE

UNIVERSITY OF CALIFORNIA